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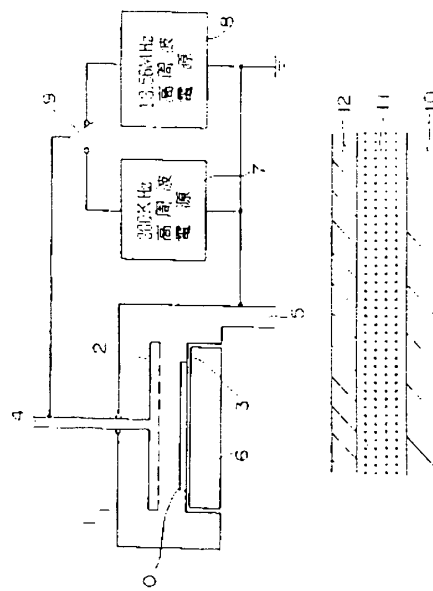
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TITLE : MANUFACTURE OF
SEMICONDUCTOR DEVICE AND
PLASMA CVD EQUIPMENT



ABSTRACT : PURPOSE: To simply prevent the warping of a semiconductor substrate, the disconnection and contact of wiring, and obtain a uniform substrate free from strain, by supplying discharge frequency electric power of different frequencies, forming thin films with different stress directions on a semiconductor substrate, and controlling the total stress by alternately stacking the thin films.

CONSTITUTION: By using plasma CVD method and changing discharge frequencies of high frequency power supplies 7, 8, thin films with different stress directions are formed on a semiconductor substrate 10. A thin film 12 generating compression stress and a thin film 11 generating tensile stress are alternately stacked, thereby controlling stress. When compression stress is generated, the substrate is bent so as to protrude outside. When tensile stress is generated, the substrate is bent so as to protrude inside. Hence, by combining both of the films, the stresses are cancelled, and the semiconductor substrate can be so controlled that external force is not applied. Thereby the generation of warp of the substrate, the disconnection of wiring on the substrate, and the mutual contact of wires can be prevented.

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